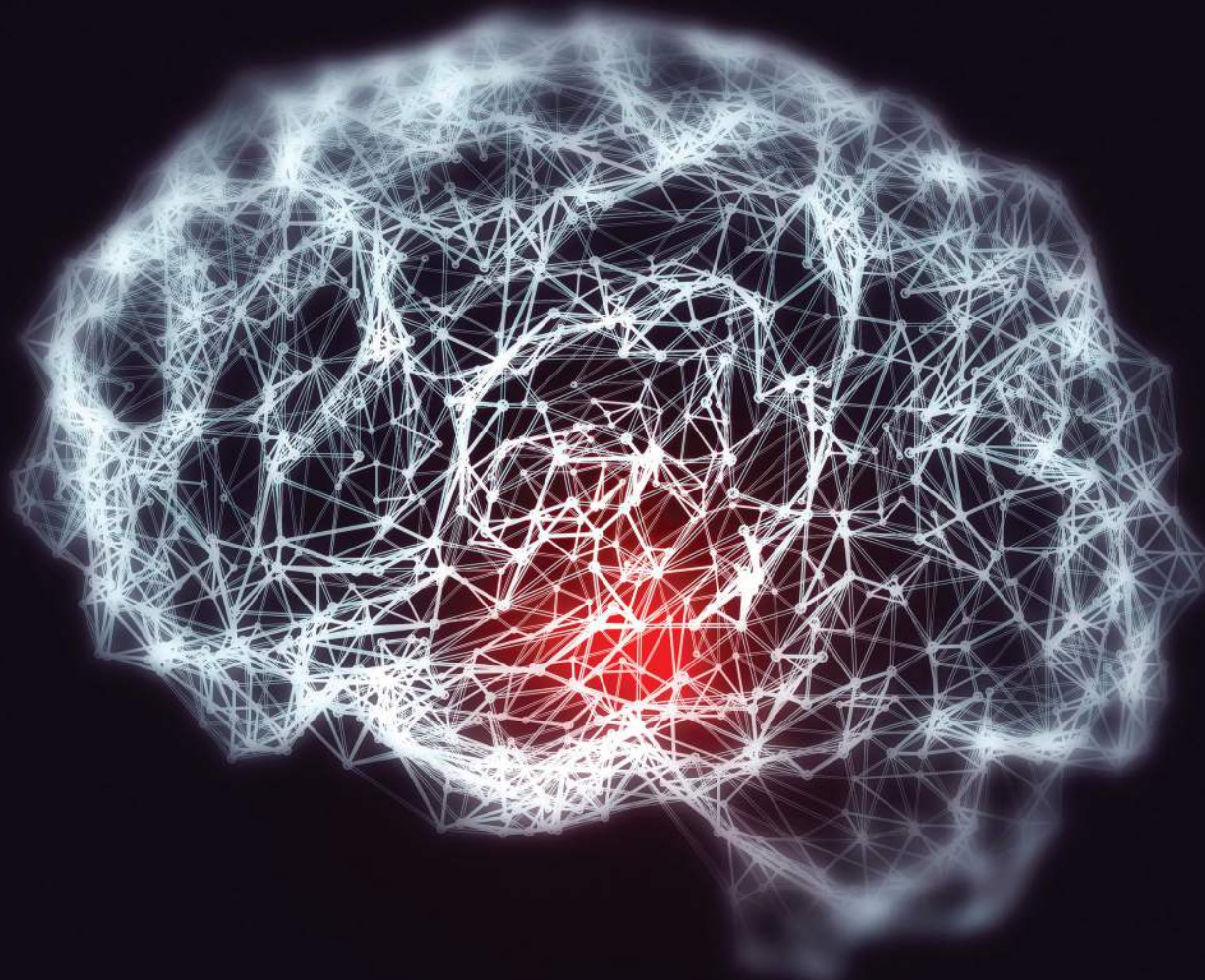


Leaders in Audiological Care for  
Hearing, Tinnitus and Balance Disorders.



# THE CONNECTION BETWEEN HEARING AND MEMORY LOSS

*And Why Working with  
an Audiologist May be Critical*

## How Common is Hearing Loss?

According to the National Institute on Deafness and Communication Disorders (NIDCD), a person's age is the strongest predictor of hearing loss among adults.

In fact, age-related hearing loss (also called presbycusis, pronounced prez-buh-que-sis) is hearing loss that occurs gradually for many people as they grow older. It is one of the most common conditions affecting older adults. About one in three people in the U.S. between the ages of 65 and 74 has hearing loss. Nearly half of those older than 75 have difficulty hearing.

Hearing loss typically occurs in both ears as adults age. But because the loss is gradual, you may not realize that you've lost some of your ability to hear until you have your hearing checked.



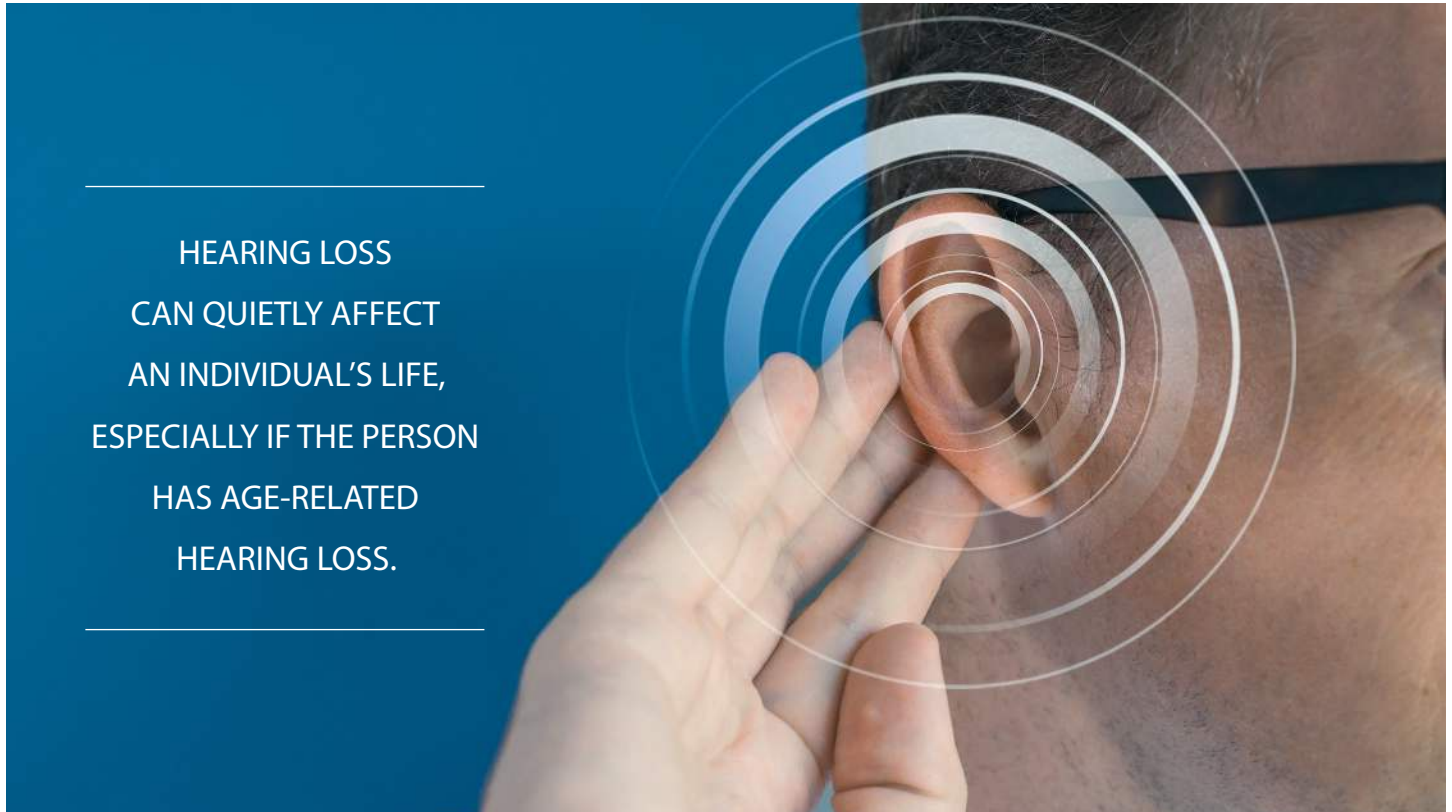
In addition, many things may affect the ability to hear as adults age. For example, changes in the inner ear that can affect hearing are common. Age-related changes in the middle ear and complex changes along the nerve pathways from the ear to the brain can also affect hearing. Long-term exposure to noise and some medical conditions can also play a role. Plus, new research suggests that certain genes make some people more susceptible to hearing loss as they age.

Conditions that are more common in older people, such as high blood pressure and diabetes, also are associated with hearing loss. In addition, medications that are toxic to the sensory cells in the ears (some chemotherapy drugs, for example) can cause hearing loss. Less commonly, abnormalities of the middle ear, such as otosclerosis, can worsen hearing with age.

But having problems hearing can make it hard to understand and follow a doctor's advice, respond to warnings, and hear phones, doorbells, and smoke alarms. Hearing loss also may make it hard to enjoy conversations with family and friends, leading to feelings of isolation.

Despite how common hearing loss is among older adults, only about 30% of those over age 70 diagnosed with hearing loss wear hearing aids, the gold standard for treating the problem.

## 10 Warning Signs of Hearing Loss



HEARING LOSS  
CAN QUIETLY AFFECT  
AN INDIVIDUAL'S LIFE,  
ESPECIALLY IF THE PERSON  
HAS AGE-RELATED  
HEARING LOSS.

To help determine if you might have hearing loss, ask yourself the following questions. If you answer “yes” to two or more of these questions, or “sometimes” to three or more of these questions, you could have hearing loss and should have your hearing evaluated by a hearing healthcare professional, such as a doctoral-level audiologist.

1. Does a hearing problem cause you difficulty when listening to the TV or radio?
2. Does a hearing problem cause you difficulty when attending a party?
3. Does a hearing problem cause you to feel frustrated when talking to members of your family?
4. Does a hearing problem cause you to feel left out when you are with a group of people?
5. Does a hearing problem cause you difficulty when visiting friends, relatives, or neighbors?
6. Do you feel challenged by a hearing problem?
7. Do you feel that any difficulty with your hearing limits or hampers your personal or social life?
8. Does a hearing problem cause you to feel uncomfortable when talking to friends?
9. Does a hearing problem cause you to avoid groups of people?
10. Does a hearing problem cause you to visit friends, relatives, or neighbors less often than you would like?

## Dementia – Another Common Health Problem for an Aging Population

Clearly, hearing loss is a significant health problem among older adults in the U.S., but an equally important health problem in an aging population is dementia. According to the Alzheimer's Association, more than 6 million Americans are living with Alzheimer's disease, and many others have different forms of dementia.

Dementia is a general term for loss of memory, language, problem-solving and other thinking abilities that are severe enough to interfere with daily life. Alzheimer's accounts for 60 to 80% of all cases of dementia and is the most common type. Other types of dementia include vascular and mixed, along with less common forms.

Dementia is caused by damage to brain cells. This damage interferes with the ability of brain cells to communicate with each other. When brain cells cannot communicate normally, thinking, behavior and feelings can be affected.

Different types of dementia are associated with particular types of brain cell damage in specific regions of the brain. For example, in Alzheimer's disease, high levels of certain proteins inside and outside brain cells make it hard for brain cells to stay healthy and to communicate with each other. The brain region called the hippocampus is the center of learning and memory, and the brain cells in this region are often the first to be damaged. That's why memory loss is often one of the earliest symptoms of Alzheimer's.



# 10 Warning Signs of Alzheimer's

If you notice any of these signs, take action. See your healthcare provider.

## 1. MEMORY LOSS THAT DISRUPTS DAILY LIFE.

One of the most common signs of Alzheimer's disease, especially in the early stage, is forgetting recently learned information. Other signs include forgetting important dates or events, asking the same question over and over again, or increasingly needing to rely on memory aids (e.g., reminder notes or electronic devices) or family members for things the person used to handle on their own.

### ***What's a typical age-related change?***

*Sometimes forgetting names or appointments, but remembering them later.*



## 2. CHALLENGES IN PLANNING OR SOLVING PROBLEMS.

Some people living with dementia may experience changes in their ability to develop and follow a plan or work with numbers. They may have trouble following a familiar recipe or keeping track of monthly bills. They may have difficulty concentrating and take much longer to do things than they did before.

### ***What's a typical age-related change?***

*Making occasional errors when managing finances or household bills.*

## 3. DIFFICULTY COMPLETING FAMILIAR TASKS.

People living with Alzheimer's disease often find it hard to complete routine tasks. Sometimes they may have trouble driving to a familiar location, organizing a grocery list or remembering the rules of a favorite game.

### ***What's a typical age-related change?***

*Occasionally needing help to use microwave settings or to record a TV show.*

## 4. CONFUSION WITH TIME OR PLACE.

People living with Alzheimer's can lose track of dates, seasons and the passage of time. They may have trouble understanding something if it is not happening immediately. Sometimes they may forget where they are or how they got there.

### ***What's a typical age-related change?***

*Getting confused about the day of the week, but figuring it out later.*

## 5. TROUBLE UNDERSTANDING VISUAL IMAGES AND SPATIAL RELATIONSHIPS.

For some people, vision problems are a sign of Alzheimer's. They may also have problems judging distance and determining color or contrast, causing issues with driving.

### ***What's a typical age-related change?***

*Vision changes related to cataracts.*

## 6. NEW PROBLEMS WITH WORDS IN SPEAKING OR WRITING.

People living with Alzheimer's may have trouble following or joining a conversation. They may stop in the middle of a conversation and have no idea how to continue, or repeat themselves. They may struggle with vocabulary, have trouble naming a familiar object or use the wrong name.

### ***What's a typical age-related change?***

*Sometimes having trouble finding the right word.*

## 7. MISPLACING THINGS AND LOSING THE ABILITY TO RETRACE STEPS.

A person living with Alzheimer's may put things in unusual places. They may lose things and be unable to go back over their steps to find them again. They may accuse others of stealing, especially as the disease progresses.

### ***What's a typical age-related change?***

*Misplacing things from time to time and retracing steps to find them.*





## 8. DECREASED OR POOR JUDGMENT.

Individuals may experience changes in judgment or decision-making. For example, they may use poor judgment when dealing with money, or pay less attention to grooming or keeping themselves clean.

### ***What's a typical age-related change?***

*Making a bad decision once in a while, like neglecting to change the oil in the car.*

## 9. WITHDRAWAL FROM WORK OR SOCIAL ACTIVITIES.

A person living with Alzheimer's may experience changes in the ability to hold or follow a conversation. As a result, he or she may withdraw from hobbies, social activities or other engagements. They may have trouble keeping up with a favorite team or activity.

### ***What's a typical age-related change?***

Sometimes feeling uninterested in family or social obligations.

## 10. CHANGES IN MOOD AND PERSONALITY.

Individuals living with Alzheimer's may experience mood and personality changes. They may be easily upset at home, at work, with friends or when out of their comfort zone.

### ***What's a typical age-related change?***

*Developing very specific ways of doing things and becoming irritable when a routine is disrupted.*



## How are Hearing Loss and Dementia Connected?

While the exact connection between hearing loss and dementia, or cognitive decline, is not understood, in recent years, there has been extensive research examining how age-related hearing loss and brain function (cognition) are associated.

One theory is that hearing loss leads to a decreased input to the brain, so there is less processing that occurs, which contributes to cognitive decline. Another theory is that early cognitive decline may impact a person's ability to process sound, which contributes to hearing loss.

While more research is needed to better explore the connection, it's important to note that a connection isn't the same as a causal relationship. In other words, no one has demonstrated that having hearing loss causes cognitive decline, or vice versa.

However, a study from the Johns Hopkins Bloomberg School of Public Health, which was published in the *Journal of the American Medical Association*, showed a clear association between severity of hearing loss and dementia.<sup>1</sup>

The study analyzed a nationally representative dataset from the National Health and Aging Trends Study (NHATS). The NHATS has been ongoing since 2011 and used a sample of American Medicare beneficiaries over age 65.

In the study, 33.5% of the participants had normal hearing; 36.7% had mild hearing loss; and 29.8% had moderate-to-severe hearing loss.

The prevalence of dementia among the participants in the study with moderate-to-severe hearing loss was 61% higher than prevalence among participants who had normal hearing. The use of hearing aids was associated with a 32% lower prevalence of dementia in the 853 participants who had moderate-to-severe hearing loss.



## More Evidence that Hearing Aids Can Help

Another study published in the medical journal *The Lancet*, also showed that for people with hearing loss, wearing hearing aids may reduce their risk of developing dementia.<sup>2</sup>

This study was conducted by an international team of researchers and found that people experiencing hearing loss who are not using hearing aids may have a higher risk of dementia than people without hearing loss; however, using a hearing aid may reduce this risk to the same level as people without hearing loss. The study analyzed 437,704 people in the UK Biobank ages 40-69 between 2006-2010. The average age of study participants at recruitment was 56 years old, and the average follow-up time was 12 years.



Around three-quarters of the participants had no hearing loss, and the remaining one-quarter had some hearing loss. Among those with hearing loss, 11.7% used hearing aids. After controlling for other factors, the study suggested that, compared to participants with normal hearing, people with hearing loss not using hearing aids had a 42% higher risk of all-cause dementia, while no increased risk was found in people with hearing loss who used hearing aids.

This lower prevalence of dementia in those using hearing aids, makes it even more important that older adults have their hearing evaluated by a hearing healthcare professional/audiologist, and if diagnosed with hearing loss, consider the possibility of wearing hearing aids.

Hearing aids also have been shown to improve overall quality of life, including providing improved communication, better relationships, lower rates of mental health issues, such as depression, and a better ability to be productive personally and professionally.

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### References

1. Alison R. Huang, Kening Jiang, Frank R. Lin, Jennifer A. Deal, Nicholas S. Reed. *Hearing Loss and Dementia Prevalence in Older Adults in the US.* *JAMA*, 2023; 329 (2): 171 DOI: 10.1001/jama.2022.20954.
2. Jiang F, Mishra SR, Shrestha N, et al. *Association between hearing aid use and all-cause and cause-specific dementia: An analysis of the UK Biobank cohort.* *Lancet*. 2023; published online April 13, 2023.

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IF YOU'RE CONCERNED  
ABOUT HEARING LOSS,  
MEMORY LOSS, OR BOTH,  
TALK WITH YOUR  
HEALTHCARE PROFESSIONAL.

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## What Can You Do?

The statistics show people delay seeking help for hearing loss, on average, up to seven years! Often, it's a close friend or relative who urges their loved one to have their hearing evaluated, and if a loss is found, consider using hearing aids.

Remember, if an individual has age-related hearing loss, treatment in the form of prescription hearing aids can be very effective. There are a wide range of technologies and options that can be customized for the individual's lifestyle and budget.

Likewise, most Americans are reluctant to see a doctor early if they have cognitive issues and tend to wait until the symptoms have a noticeable impact on their lives. The 2022 Alzheimer's Disease Facts and Figures Special Report found that only four in 10 Americans would talk to their doctor right away when experiencing symptoms of mild cognitive impairment. The rest indicated that they would live with their symptoms for a while, potentially until they became worse or others expressed concern.

That's unfortunate because there are some new medications now approved by the Food and Drug Administration that have demonstrated some benefit in slowing the progression of the disease. And, in general, they work better when started early in the disease process.

Remember though, nothing has been shown to cure dementia. Disregard claims, especially from herbal supplements, that they can treat or cure Alzheimer's disease, or any other form of dementia.

At present, probably the best course of action is to talk openly with your healthcare professional if you are experiencing hearing loss, memory loss, or both, and follow their recommendations.

There also are several online tools available for self-screening of memory loss/dementia, including on the Alzheimer's Association's website, [alz.org](http://alz.org).

At Associated Audiologists, we also recommend BrainHQ to patients who are interested in staying at the top of their game. BrainHQ has 29 online exercises that work out attention, brain speed, memory, people skills, navigation, and intelligence. You can sign up for the "free" version at [brainhq.com](http://brainhq.com), or there is a paid subscription that includes more features.

## How an Audiologist Can Help

If you aren't sure if you have hearing loss, have your hearing evaluated by an audiologist, a doctoral-level hearing healthcare professional. If diagnosed with hearing loss, consider the possibility of wearing hearing aids. Keep in mind wearing hearing aids may reduce the risk of dementia, according to recent research, but there is no cure for it.

In addition, there are other benefits to wearing hearing aids. They have been shown to improve overall quality of life, including providing improved communication, better relationships, lower rates of mental health issues, such as depression, and a better ability to be productive personally and professionally.

Though many people may think a close friend or family member would be helpful in diagnosing memory loss, they often are too close to the situation, or may be in denial and not recognize when someone is struggling.

Instead, your audiologist may be one of the first individuals to notice the signs and symptoms of memory loss and may be able to help identify dementia early on when treatment is likely to be more effective.

How is that possible? Audiologists typically care for older adults and see them on a regular basis. During their conversations with their patients and loved ones, they may note a decline in cognitive ability, especially if the person has difficulty operating their hearing aids as well as they once did, or they have problems understanding basic instructions. Sometimes, it could be not doing something they have in the past, like regularly changing batteries or wax filters. An audiologist also may have a good understanding of the dementia process or cognitive decline, and how such a condition could impact an individual's ability to continue functioning on a daily basis.



## Helpful Tips

Associated Audiologists offers these tips to help individuals and families who may be dealing with someone who has been diagnosed with hearing and memory loss.

- Schedule appointments and check-ups at regular intervals and be sure your loved one keeps them.
- A trusted family member or friend should come to each appointment if possible so they can help keep track of details and instructions.
- Use a phone to video use and care instructions, or other important information that can be used by the patient or family member if needed.
- The patient should add any individuals responsible for helping with their healthcare to their HIPAA privacy form. This form gives the audiologist, and other healthcare providers, permission to discuss any issues or concerns with the individuals listed.
- Be aware of loss/damage coverage on hearing aids. If memory declines, hearing aids are often one of the first items misplaced or lost.
- Help your loved one maintain good health habits and stick to routines. Doing so can help them better cope with any memory loss.
- Rely on the audiology team to help monitor hearing, and to point out any noticeable declines in memory or cognitive function to either the patient, or to other members of their healthcare team.

Remember, an audiologist can be a trusted ally for patients and their families, helping to spot unusual behavioral changes or more significant lapses in memory. Once aware of the issue, the patient or family members can discuss possible treatment options with a primary care provider or a specialist. Often, these conversations will trigger other concerns over issues such as the individual's living environment, ability to function well independently, and if or when medications should be started.

## Looking for more information?

Visit **hearingyourbest.com** for more information about hearing loss.

Schedule an appointment with a doctoral-level audiologist for a diagnostic hearing evaluation. This information will not only help you determine whether you have a hearing loss, but what your options are.

**Call 855-547-8745.**



### Resources

Associated Audiologists, [hearingyourbest.com](http://hearingyourbest.com)

Alzheimer's Association, [alz.org](http://alz.org)

National Institute of Deafness and Communication Disorders, [nidcd.nih.gov](http://nidcd.nih.gov)

## ABOUT ASSOCIATED AUDIOLOGISTS, INC.



Associated Audiologists, Inc., is the region's leader in audiologic care for hearing and balance disorders. The practice was established in 1985.

Today, it has grown to include multiple doctoral-level audiologists and eight convenient locations to serve you. The audiologists have allied health staff privileges at AdventHealth, Saint Luke's South, East and North hospitals.

They specialize in:

- Hearing Diagnostics
- Prescription Hearing Aids
- Tinnitus
- Dizziness and Balance Disorders

The Associated Audiologists team uses advanced diagnostic and verification technology to diagnose and treat hearing loss. Associated Audiologists offers digital prescription hearing products from the world's most respected manufacturers backed by unparalleled service.

The practice's audiologists also are leaders in local, regional and national professional audiology associations. All members of the Associated Audiologists team are certified by the American Speech-Language-Hearing Association and they are frequent presenters at educational conferences.

 [hearingyourbest.com](https://hearingyourbest.com)

**1-855-547-8745**